



Dear Prospective Student,

Thank you for your inquiry about the cytotechnology program. Enclosed, please find information pertaining to our program.

The length of our program is one year and our next class will start mid August. Upon completion of the course the student will receive a Bachelor of Science degree in Cytotechnology. A graduate is then eligible to become a registered cytotechnologist by successfully completing the registry examination given by the American Society of Clinical Pathologists. Our program has been nationally recognized and is accredited by the Commission on Accreditation for Allied Health Education Programs (CAAHEP). The course combines lectures in anatomy, histology, physiology, and cytopathology with microscopic and staining instruction. A summary of the curriculum of the Cytotechnology Program is as follows:

CLS 661	Management in Allied Health Science	3 hours
CYTO 300	Introduction to Cytology	5 hours
CYTO 321	Neoplasia in the Female Genital Tract: I	5 hours
CYTO 322	Neoplasia in the Female Genital Tract: II	6 hours
CYTO 355	Management, Respiratory, and Oral Cytology	4 hours
CYTO 370	Effusions, CSF, and Misc. Cytology	3 hours
CYTO 380	GI, Breast, GU, and FNA Cytology	6 hours
CYTO 415	Scientific Method and Literature in Cytology	1 hour
CYTO 420	Advanced Practicum in Cytology	3 hours
CYTO 450	Advanced Topics in Cytology	3 hours

While microscopes and teaching materials are provided for students, the students must purchase their own books and enroll in the 39 hours of courses which comprise the program. Additionally, the students must attend several rotation sites in the area and provide their own transportation to these sites. The tuition for the coursework is charged at the normal undergraduate rate through the University. Financial aid at the University of Kansas Medical Center is separate from the Lawrence campus.

Cytotechnology is a very demanding field. Cytotechnologists throughout the country maintain a high standard of practice. Cytotechnologists work in private laboratories, in hospitals, or in the private arena. The starting salary for graduates varies depending on location but currently averages in excess of \$40,000 per year. If you need further assistance, please do not hesitate to contact us. We look forward with great pleasure to hearing from you.

Sincerely,

Marilee Means, PhD, SCT(ASCP)  
Program Director

**KU Cytotechnology**

Mail Stop 4048 | 3901 Rainbow Blvd. | Kansas City, KS 66160 | Office (913) 588-1179  
Fax (913) 588-5222 | TDD (913) 588-7963 | [www.alliedhealth.kumc.edu](http://www.alliedhealth.kumc.edu)

## **ADMISSION REQUIREMENTS**

The minimum admission requirements to the Cytotechnology Program at the University of Kansas Medical Center, School of Allied Health are three years of college with a total of 90 semester credit hours. Twenty (20) semester hours must be in the biological sciences including courses such as general biology, parasitology, physiology, anatomy, microbiology, embryology, and zoology. Included in this total should be one introductory biology course and either an anatomy and/or physiology course. Also required are eight (8) hours of chemistry and three (3) hours of college algebra. See program brochure for specific course requirements and recommendations. An overall grade point average (GPA) of 2.3 and a GPA of 2.5 are required in biology, chemistry, and math.

Transcripts must be evaluated by the program. This evaluation must be in the files of the school before the student can be accepted into the program. Official transcripts must be sent directly from all colleges or universities attended to: KU Cytotechnology Program, Mail Stop 4048G-Eaton, 3901 Rainbow, Kansas City, KS 66160. For students whose transcripts are from a college or university not in the U.S., please follow the enclosed instructions to obtain an evaluation from one of the listed foreign transcript evaluators. When transcripts have been evaluated, this does not necessarily guarantee admission to the program. A personal interview and recommendations are of equal importance.

Good physical and mental health are essential. Physical or other disabilities are evaluated on a case by case basis by the program and by the Equal Employment Opportunity Office at KUMC. See the enclosure on Technical Standards. Physical examinations are required prior to the time of registration for classes at KUMC. A test for color blindness is also required. Applicants will be notified as soon as possible of the decision regarding their application.

## **LENGTH OF PROGRAM AND DEGREE**

A Bachelor of Science is awarded by the School of Allied Health upon completion of the one-year course, which begins each year in mid August. The student is then eligible to become registered by the Board of Registry of the ASCP. The courses are conducted from Monday to Friday, 8:00 a.m. to 4:30 p.m. each day. The students enroll in the Fall, Spring, and Summer semesters and the program ends at the end of July.

## **EXPENSES**

Contact Student Admissions and Records (913) 588-6591 for questions or additional information regarding tuition, fees, and financial aid. The student is responsible for providing proof of health insurance prior to enrollment. Additionally, accepted students must pay for a pre-professional background check (approx. \$60). Although subject to change, approximate fees for books are about \$750 for the year.

## **PROMOTION AND DISMISSAL**

Periodic written and practical examinations will be held at designated or undesignated times. All students must score 80% in any unit examination. He or she must obtain an average of 80% at all times during the training period. A student may be placed on probation if the average is less than 80%.

Evaluation and grading shall be the sole responsibility of the Faculty of the Cytotechnology Program. Students must also obtain an average score of at least 85% in their screening quotas in the first semester and 90% in the second two semesters. Failure to obtain a grade of B or better in the course will result in academic probation and may lead to dismissal from the program.

KUMC is committed to equal opportunity and nondiscrimination in all programs and services and does not discriminate on the basis of race, color, religion, sex, national origin, ancestry, age, sexual orientation, marital status, disability or veteran status. This publication is available in alternate formats upon request. Contact Marilee Means, Ph.D., (913) 588-1179. A TDD telephone number is available at (913) 588-7963 in the Equal Employment Opportunity Office. KUMC is an EO/Title IX institution.

## Prerequisites for Cytotechnology

Total Required for current undergraduates:

**90 credit hours**

### Biological Sciences:

**20 hrs.**

Required: BIOL 100/102 or BIOL 150 Principles of Biology 4-5 hrs.  
BIOL 240 OR BIOL 246 Anatomy or Physiology 3 hrs.

Optional Course Suggestions \*  
BIOL 240 Fundamentals of Human Anatomy 3 hrs.  
BIOL 246 Principles of Human Physiology 3 hrs.  
BIOL 404 Introduction to Genetics 3 hrs.  
BIOL 416 Cell Structure and Function 3 hrs.  
BIOL 417 Biology of Development 3 hrs.  
BIOL 450 Cancer Biology 3 hrs.  
BIOL 570 Introduction to Biostatistics 3 hrs.  
BIOL 590 Principles of Embryology 3 hrs.  
BIOL 595 Human Genetics 3 hrs.  
BIOL 636 Cytology and Cytogenetics 3 hrs.

### Chemistry:

**8 hrs.**

Required: CHEM 184 Foundations of Chemistry I 5 hrs.  
CHEM 188 Foundations of Chemistry II 5 hrs.

### Math:

**3 hrs.**

Required: MATH 101 College Algebra (or higher) 3 hrs.

### English:

**6 hrs.**

Required: ENGL 101 Composition 3 hrs.  
ENGL 102 Composition and Literature 3 hrs.

### Oral Communication:

**3 hrs.**

Required: COMS 130 Speaker-Audience Communication 3 hrs.  
(or COMS 150 or COMS 230)

### Western Civilization:

**6 hrs.**

Choose two:  
HWC 204 Western Civilization I 3 hrs.  
HWC 205 Western Civilization II 3 hrs.  
PHIL 140 Introduction to Philosophy 3 hrs.  
PHIL 160 Introduction to Ethics 3 hrs.  
PHIL 370 Moral Issues in Medicine 3 hrs.  
HIST 100 World History 3 hrs.  
HIST 128 History of the U.S. to Civil War 3 hrs.  
HIST 129 History of the U.S. after Civil War 3 hrs.  
HIST 115 Europe 1789 – Present 3 hrs.

### Humanities:

**6 hrs.**

(see principle course list in Undergraduate Catalog)

### Social Sciences:

**6 hrs.**

(see principle course list in Undergraduate Catalog)

### Electives:

Optional Course Suggestions \*  
MATH 111, MATH 365, or BIOL 570 3 hrs.  
EECS 128 or EECS 138 3 hrs.  
H A 100, H A 150 or H A 151 3 hrs.

\* Optional Courses are suggestions provided by Cytotechnology faculty to assist students and are not considered prerequisites for admission. Only courses listed as "Required" above are needed to fulfill entry requirements.

KU Cytotechnology Program, Mail Stop 4048, 3901 Rainbow Blvd., Kansas City, KS 66160

**APPLICATION MATERIALS CHECKLIST**  
**MUST BE RECEIVED BEFORE APPLICATION DEADLINE (FEBRUARY 1<sup>ST</sup>)**

**ALL Cytotechnology applicants:**

- Transcripts forwarded directly to KU Cytotechnology by ALL colleges/universities attended
- KU Cytotechnology Program application – complete all fields
- KU School of Allied Health application – complete all fields and sign
- \$60** fee, payable to “University of Kansas Medical Center”
- 2 Recommendation forms, from 2 different people, sent directly to KU Cytotechnology

**For students for whom English is a second language:**

- English Language Requirements items I and II (page 15 of this document) must be completed before beginning the professional program (year 4 of the degree program).

**For students with a foreign transcript:**

- Foreign transcripts must be submitted to one of the acceptable evaluation agencies (see list of agencies on following page) and their official evaluation -- both in credit hours and letter grades -- must be sent directly to the program PRIOR to the March 1st deadline.

## Application Form for Cytotechnology Program KU School of Allied Health

Admission requested for year \_\_\_\_\_ Soc. Sec. # \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
Street
City and State
ZIP Code

Home Telephone \_\_\_\_\_ Daytime Telephone \_\_\_\_\_

Cell phone \_\_\_\_\_ Birth Date \_\_\_\_\_

High School \_\_\_\_\_

College\* \_\_\_\_\_

\_\_\_\_\_  
 \*You MUST have ALL your college transcripts forwarded directly from your school(s) to us, even if the hours from one school appear on a later transcript from another school.

Other Training \_\_\_\_\_

### Employment Experience

From	To	Name and Address of Employer	Position

Name and Address of two persons (Two college teachers who are acquainted with your academic attainments and professional potential.) Print TWO of the Cytotechnology Recommendation Forms and you will request that they fill out the recommendation forms and submit them directly to us.

1. Name and address

2. Name and address

Please write a brief summary of reasons why you wish to take this course and include future plans or employers, if any.

**PLEASE SEND TO:**

**KU Cytotechnology Program  
Mail Stop 4048  
3901 Rainbow Blvd.  
Kansas City, KS 66160**



**Part C** Academic and Experience Record  
 • Please complete all fields

11. Are you a CITIZEN of the United States of America?  YES  NO  
 If answer is NO: Have you been granted Immigrant or Permanent Resident status by the U. S. Immigration & Naturalization Service ?  YES  NO  
 If NO, indicate type of VISA: \_\_\_\_\_ If YES, attach a copy of your Alien Registration card to this form.

12. Are you a KU employee or a dependent of one?  YES  NO

13. Are you a member of the U.S. Armed Forces or a dependent of a member?  YES  NO  
 If "yes" is the duty station in Kansas?  YES  NO

14. Will you or your parents have moved to take a job in Kansas before you enter KU?  YES  NO

15. HIGH SCHOOL: \_\_\_\_\_ CITY/STATE: \_\_\_\_\_ GRADUATION YEAR: \_\_\_\_\_

16. Have you ever attended, or are you currently attending, the University of Kansas?  
 NO  YES – if yes, please indicate dates attended (mm/yy): \_\_\_/\_\_\_ to \_\_\_/\_\_\_

KU Student Identification No.: \_\_\_\_\_

17. List below or attach complete information concerning the colleges or universities you have attended, beginning with latest, and indicate the one from which you received, or expect to receive, your degree. Include graduate work, if applicable. Please show overall undergraduate Grade Point Average where indicated (A=4.0).

Name and Location of College/University	Dates of Attendance (mm/yy)	Major	Degree	GPA
_____	From ___/___ to ___/___	_____	_____	___.
_____	From ___/___ to ___/___	_____	_____	___.
_____	From ___/___ to ___/___	_____	_____	___.
OVERALL Undergraduate Grade Point Average =				___.

18. List below or attach information concerning full time employment (including military service). Begin with the most recent:

Description of Employment	Company or Institution	Location	Inclusive Dates of Employment
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Part D** References and Signature  
 • Please complete all fields

19. List below the names of three people, including recent instructors, whom you have asked to send reference forms regarding your qualifications. The reference forms should be sent directly to the department to which you are making application. (Occupational Therapy applicants, please skip this item and proceed to number 19 below).

	Reference 1	Reference 2	Reference 3
Name	_____	_____	_____
Position/Title	_____	_____	_____
Address	_____	_____	_____

20. Signature of Applicant **X** \_\_\_\_\_ Date of application \_\_\_\_\_

Please direct requests for disability accommodation to the EO/Disability Specialist: 913-588-1206 (Voice) or 913-588-7963 (TDD). Persons with speech or hearing impairments who wish to contact the university may access the Kansas State Relay at 800-766-3777.

**APPLICANT: DO NOT WRITE BELOW THIS LINE**

**Departmental Recommendation**  
 • For Internal Use Only

Degree sought \_\_\_\_\_ Major Code # \_\_\_\_\_  
 Major field \_\_\_\_\_ Department \_\_\_\_\_

Deficiencies or remarks: \_\_\_\_\_

We recommend admission to the program indicated above.  YES  NO Date: \_\_\_\_\_

Signature of Departmental Representative: \_\_\_\_\_

## English Language Requirements for Cytotechnology Program

Students for whom English is a second language must satisfy the following requirements:

- A. All applicants for study at the University of Kansas Medical Center (KUMC) whose native language is not English must demonstrate an established level of English language proficiency through either the TOEFL (Test of English as a Foreign Language) or the academic format of the IELTS (International English Language Testing System). The test must have been taken within two years of the first semester of enrollment. For detailed requirements, including minimum scores for acceptance, visit: [http://www.kumc.edu/international/esl\\_req.html](http://www.kumc.edu/international/esl_req.html) .
- B. Documentation of proof of residency and citizenship may be required during the application process. All individuals who are not citizens or lawful permanent residents of the U.S. are required to check in with the Office of International Programs (<http://www.kumc.edu/international/immigration/location.html>) immediately upon arriving at the University of Kansas Medical Center, before commencing any program of work, study, or research. To ensure that you are in a valid status which will allow you to begin studies, you should contact the Office of International Programs once you receive formal acceptance into an academic program at KUMC. The advisors at KUMC will work with you to determine the best immigration status available to you and will assist you with any necessary applications or change of status. For those already in F-1 or J-1 status, a change of sponsorship in the SEVIS system may be necessary.
- C. If the applicant's degree is not from an accredited U.S. College/University, official transcripts and/or credentials must be evaluated by the KUMC Office of International Studies before acceptance to the program.
- D. A completed degree equal to that of a Bachelors Degree from an Accredited U.S. College or University, including the following classes which must be completed with a passing grade of a "C" in each: Human Anatomy and Physiology, Physics (Freshman) and Algebra (Freshman).

# Appendix B

## ACCEPTABLE EVALUATION AGENCIES FOR FOREIGN TRANSCRIPTS

### **AACRAO**

Office of International Education Services  
One Dupont Circle, NW, Suite #370  
Washington, DC 20036-1110  
202-296-3359  
202-872-8857 FAX

### **Center for Applied Research, Evaluation & Education, Inc.**

P O Box 20348  
Long Beach, CA 90801  
562-430-1105  
562-430-8215 FAX  
Email: [www.evalcaree@earthlink.net](mailto:www.evalcaree@earthlink.net)

### **Education Credential Evaluators, Inc.**

P O Box 514070  
Milwaukee, WI 53203-3470  
414-289-3400  
414-289-3411 FAX  
Email: [eval@ece.org](mailto:eval@ece.org)  
Website: [www.ece.org](http://www.ece.org)

### **Education Evaluators International, Inc.**

P O Box 5397  
Los Alamitos, CA 90720  
562-431-2187  
562-493-5021 FAX

### **Foreign Academic Credential Services, Inc.**

P O Box 400  
Glen Carbon, IL 62034  
618-656-5291  
618-656-5292 FAX  
Email: [fasc@aol.com](mailto:fasc@aol.com)  
Website: [www.facsusa.com](http://www.facsusa.com)

### **Foreign Credentials Service of America**

1910 Justin Lane  
Austin, TX 78757-2411  
512-459-8428  
512-459-4565 FAX  
Email: [info@fcsa.biz](mailto:info@fcsa.biz)  
Website: [www.fcsa.biz](http://www.fcsa.biz)

### **Foundation for International Services, Inc.**

14926 35th Avenue West, Suite 210  
Lynnwood, WA 98087  
425-248-2255  
425-248-2262 FAX  
Email: [info@fis-web.com](mailto:info@fis-web.com)  
Website: [www.fis-web.com](http://www.fis-web.com)

### **Globe Language Services**

319 Broadway  
New York, NY 10007  
212-227-1994 or 212-619-0440  
212-693-1489 FAX  
Email: [info@globelanguage.com](mailto:info@globelanguage.com)  
Website: [www.globelanguage.com](http://www.globelanguage.com)

### **International Consultants of Delaware, Inc.**

625 Barksdale Road, Suite 109  
Newark, DE 19711-3258  
302-737-8715  
302-737-8756 FAX  
Email: [icd@icdel.com](mailto:icd@icdel.com)

### **International Education Evaluations, Inc.**

7900 Matthews-Mint Hill Rd.  
Suite 300  
Charlotte, NC 28227  
704-772-0109  
704-545-2484 FAX

### **International Education Research Foundation, Inc.**

P O Box 3665  
Culver City, CA 90231-3665  
310-258-9451  
310-342-7086 FAX  
Email: [info@ierf.org](mailto:info@ierf.org)  
Website: [www.ierf.org](http://www.ierf.org)

### **Josef Silny & Associates, Inc.**

International Education Consultants  
P O Box 248233  
Coral Gables, FL 33124  
305-273-1616  
305-273-1338 FAX  
Email: [info@silny.com](mailto:info@silny.com)  
Website: [www.jsilny.com](http://www.jsilny.com)

### **World Education Services, Inc.**

#### **Main Office**

P O Box 745  
Old Chelsea Station  
New York, NY 10113-0745  
212-966-6311  
212-739-6100 FAX  
Email: [info@wes.org](mailto:info@wes.org)  
Website: [www.wes.org](http://www.wes.org)

#### **Midwest Office**

P O Box 11623  
Chicago, IL 60611-0623  
312-222-0882  
312-222-1217 FAX  
Email: [midwest@wes.org](mailto:midwest@wes.org)

A foreign transcript evaluation with subject breakdown is required.

Information on this page is subject to may change without notice.  
For the most current information, visit the ASCP web site at  
[www.ascp.org](http://www.ascp.org).

# Cytotechnology Recommendation Form

Date \_\_\_\_\_

\_\_\_\_\_ is applying for admission into the Cytotechnology Program at the University of Kansas. The goal of our program is to select those individuals most likely to satisfactorily complete the clinical program and become outstanding cytotechnologists. Please give frank and careful evaluation of this candidate's abilities as your comments are an essential factor in the selection process.

How long have you known the candidate? \_\_\_\_\_

In what capacity? \_\_\_\_\_

\_\_\_\_\_

Your opinion of the applicant's honesty and integrity? \_\_\_\_\_

Check the most applicable single response:

## ACADEMIC ABILITY

- brilliant, exceptional
- above average
- average
- capable but underachieves
- below average

## MOTIVATION

- strong drive
- moderate drive, definite goals
- average ambition
- lacks drive, no defined goals
- no basis to judge

## QUALITY OF WORK

- unusually high, careful, neat
- above average
- average, does required work
- below average, careless
- often unacceptable
- no basis to judge

## JUDGEMENT

- unusual ability to evaluate
- good decisions on routine matters
- sometimes renders wrong conclusions
- often renders wrong conclusions
- no basis to judge

## INITIATIVE

- ingenious, does more than required
- requires little direct supervision
- requires moderate supervision
- requires above average supervision
- no basis to judge

## MANUAL DEXTERITY

- remarkably adept, uses equipment well
- acceptable performance
- acceptable performance but slow
- unacceptable lab performance
- no basis to judge

## RELIABILITY

- consistently dependable, accurate, prompt
- usually dependable, accurate
- questionable
- reliable
- no basis to judge

## COOPERATION

- good team worker, respects authority
- meets others halfway
- inconsiderate, difficult
- antagonistic, resists authority
- no basis to judge

## LEADERSHIP

- always assumes leadership role
- often assumes responsible role
- accepts but doesn't seek leadership role
- refuses leadership role
- no basis to judge

## ABILITY TO LISTEN/FOLLOW DIRECTIONS

- excellent
- above average
- average
- below average
- no basis to judge

RESPONSE TO CONSTRUCTIVE CRITICISM

- responds well, corrects problem
- listens but often fails to alter performance
- emotional response but corrects problem
- emotional response, often doesn't correct problem
- denies validity of most criticism
- no basis to judge

COMMUNICATION: WRITTEN

- excellent grammar, spelling, organization
- above average
- acceptable
- poor grammar, spelling, organization
- no basis to judge

COMMUNICATION: ORAL

- excellent skills, organized
- articulate and poised
- above average skills
- average, usually effective
- below average, often ineffective
- no basis to judge

EMOTIONAL STABILITY

- excellent self control even under pressure
- usually stable
- easily disturbed, but achieves goal
- instability interferes with achieving goals
- temperamental, loses control
- no basis to judge

PERSONALITY

- outgoing, pleasant, well-liked
- distinctive but likable
- pleasant, accepted
- quiet, reserved
- overbearing, disagreeable, avoided by most
- no basis to judge

APPEARANCE

- unusually well-groomed
- well-groomed on most occasions
- acceptable, average
- rather poor impression
- untidy appearance a possible handicap
- no basis to judge

Additional comments: Please indicate any additional comments that you think are relevant. Attach page if needed.

SUMMARY OF EVALUATION

- Outstanding candidate, recommend enthusiastically
- Above average candidate, recommend with confidence
- Average candidate, should be able to complete professional studies
- Below average candidate, predict will have difficulty with professional studies
- Shows little promise, a high risk, not recommended

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Email

**PLEASE SEND TO:**

**KU Cytotechnology Program  
Mail Stop 4048  
3901 Rainbow Blvd.  
Kansas City, KS 66160**

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\_\_\_\_\_  
\_\_\_\_\_

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- Average candidate, should be able to complete professional studies
- Below average candidate, predict will have difficulty with professional studies
- Shows little promise, a high risk, not recommended

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Email

**PLEASE SEND TO:**

**KU Cytotechnology Program  
Mail Stop 4048  
3901 Rainbow Blvd.  
Kansas City, KS 66160**

## **KU Department of Cytotechnology Technical Standards**

A Bachelor of Science Degree in Cytotechnology signifies that the holder is eligible to sit for the Board of Registry examination at the Cytotechnologist level and signifies that the holder is prepared for entry into the profession of cytotechnology. Therefore, graduates must have the knowledge and skills to function in a broad variety of clinical, research, and industrial laboratory situations and to demonstrate entry level competencies at all levels of professional practice (see attached description of the profession in Curriculum in Cytotechnology, Entry-Level Competencies, Cytotechnology Program Review Committee, American Society of Cytopathology, 1/05). Therefore, the following abilities and expectations must be met by all students admitted to the program.

### **1. Essential Observational Requirements for the Cytotechnologist**

The cytotechnology student must be able to:

Observe and perform laboratory demonstrations and tests in which biologicals (i.e. body fluids, cellular specimens, cellular smears, etc.) are stained, cover slipped, and microscopically examined for the presence or absence of disease.

Characterize the color, odor, clarity, and viscosity of biological, reagent, or chemical substances. While colorblindness is not an impediment, per se, it nevertheless reduces the amount of visual information available to the observer and may thus present difficulties for the student.

Employ a clinical grade binocular microscope to discriminate among fine structural and color (hue, shading, and intensity) differences of microscopic specimens.

Read and comprehend text, numbers, and graphs displayed in print and in other visual formats.

### **2. Essential Movement Requirements for the Cytotechnologist**

The cytotechnology student must be able to:

Move freely and safely about a laboratory.

Reach laboratory bench tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

Travel to numerous clinical laboratory sites for practical experience.

Perform moderately taxing continuous physical work, often requiring prolonged sitting or standing, over several hours.

Maneuver laboratory FNA equipment on a cart to safely assist in collecting valid laboratory specimens from various areas in the hospital.

Control laboratory equipment (i.e. pipettes, test tubes, centrifuges) and adjust instruments to perform laboratory procedures.

Use an electronic keyboard (i.e. 101-key computer keyboard) to access laboratory information systems.

### **3. Essential Communication Requirements for the Cytotechnologist**

The cytotechnology student must be able to:

Read and comprehend technical and professional materials (i.e. textbooks, magazine and journal articles, handbooks, and instruction manuals).

Follow verbal or written instructions in order to correctly and independently perform laboratory procedures.

Clearly instruct clinicians or patients in correct specimen collection procedures.

Effectively, confidently, and sensitively converse with other members of the health care team regarding cytology tests.

Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format (writing, typing, graphics, or telecommunication).

Independently prepare papers, prepare cytology diagnoses, and take paper, computer, and laboratory practical examinations.

#### 4. Essential Intellectual Requirements for the Cytotechnologist

The cytotechnology student must:

Possess these intellectual skills: comprehension, measurement, mathematical calculation, problem solving, reasoning, integration, analysis, comparison, self-expression, and criticism. The ability to correlate visual information (i.e. cellular morphology) from microscopic smears with clinical data is an essential characteristic.

Be able to exercise sufficient judgment to recognize and correct performance deviations.

#### 5. Essential Behavioral Requirements for the Cytotechnologist

The cytotechnology student must:

Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.

Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

Be able to provide professional and technical services while experiencing the stresses of heavy workloads (i.e. large number of tasks to complete in a limited amount of time), task-related uncertainty (i.e. ambiguous test-ordering), emergent demands (i.e. "stat" test orders), and a distracting environment (i.e. high noise level, patient care areas, complex visual stimuli).

Be flexible and creative and adapt to professional and technical change.

Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.

Adapt to working with unpleasant biologicals.

Support and promote the activities of fellow students and of health care professionals.

Promotion of peers helps furnish a team approach to learning, task completion, problem solving, and patient care.

Be honest, compassionate, ethical, and responsible. The student must be forthright about errors or uncertainty. The student must be able to critically evaluate his or her own performance, accept constructive criticism, and look for ways to improve (i.e. participate in enriched educational activities). The student must be able to evaluate the performance of fellow students and tactfully offer constructive comments.

Individuals with disabilities are encouraged to apply to the program. You are required to read the above information. All individuals admitted to the University of Kansas Medical Center Cytotechnology Program will be asked to verify that they can meet these standards with or without accommodation(s). Applicants who disclose a disability are considered for admission if they are otherwise qualified.

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## Description of the Profession of Cytotechnology

Cytotechnology is an allied health specialty that requires a baccalaureate degree. It is the cytotechnologist who is responsible for the evaluation of cellular material from all body sites. Paramount is the microscopic recognition of normal and abnormal cytology including, but not limited to, malignant neoplasms, precancerous lesions, infectious agents and inflammatory processes in gynecologic, non-gynecologic and fine needle aspirate specimens.

The cytotechnologist possesses the technical skills for a wide variety of laboratory specimen preparations and a basic knowledge of contemporary procedures and technologies such as, but not limited to, image analysis, flow cytometry, immunocytochemistry, electron microscopy, molecular diagnostic procedures and automation.

The role of the cytotechnologist extends beyond the detection of malignancy and includes such issues as quality improvement, laboratory management, teaching, research, and consumer/patient education. Basic knowledge of contemporary procedures does not necessarily imply hands-on experience in the performance of these procedures.

## CYTOTECHNOLOGY CURRICULM ENTRY-LEVEL COMPETENCIES

This Curriculum in Cytotechnology was developed by the CPRC with input from cytopathology professionals to establish the minimum competencies that new cytotechnology graduates must be able to demonstrate upon entering the profession. The entry-level competencies are divided into six major categories based on the overall knowledge and/or skill set encompassed within: Screening and Interpretation, Basic Laboratory Techniques, Laboratory Operations, Ancillary Testing / New Technologies, Scientific Method of Inquiry, and Professional Development.

These entry-level competencies require that cytotechnology students optimally should have a sound background in the sciences. After input from the profession, the CPRC has also established that programs must ensure that students have a minimum of 28 credits of sciences including chemistry and the biological sciences upon entering into a cytotechnology program and 3 credits of mathematics and/or statistics.

As mandated in the Standards and Guidelines for the Accreditation of Educational Programs in Cytotechnology (2004), cytotechnology programs must ensure that the curriculum offered in their programs prepares students to meet these entry-level competencies:

The program must demonstrate by comparison that the curriculum offered prepares students to meet, or exceed if such is stated in the program goal(s), the entry-level competencies specified in the latest edition of the Curriculum in Cytotechnology as developed by the Cytotechnology Programs Review Committee.

At minimum, these entry-level competencies will be reviewed every 2 years by the CPRC. Communities of interest will be surveyed every 5 years, or sooner if deemed necessary by the CPRC, to determine what revisions, if any, need to be made.

### I. SCREENING AND INTERPRETATION

1. When given conventional and/or liquid-based cervicovaginal cellular samples, the cytotechnologist will be able to microscopically identify and discriminate among the following entities:
  - a. specimen adequacy
  - b. cellular constituents within the negative for intraepithelial lesion or malignancy category
  - c. non-neoplastic findings including cellular changes associated with infections, reactive and reparative changes associated with inflammation, effects of therapy, effects of mechanical devices and presence of glandular cells in noteworthy circumstances

- d. epithelial squamous abnormalities, including atypical squamous cells of undetermined significance, atypical squamous cells cannot exclude HSIL, low grade squamous intraepithelial lesion, high grade squamous intraepithelial lesion, and squamous cell carcinoma
  - e. glandular cell abnormalities including atypical glandular cells, endocervical adenocarcinoma in-situ and adenocarcinoma and their differential diagnoses
  - f. non-epithelial malignant neoplasms
  - g. extra-uterine malignant neoplasms.
2. The cytotechnologist will be able to evaluate gynecologic material with sufficient competence to meet the entry-level responsibility of issuing the final report for negative gynecologic specimens.
  3. When given cellular samples from any non-gynecologic cytology specimen, including fine needle aspirations, the cytotechnologist will be able to microscopically identify and discriminate among the following entities:
    - a. specimen adequacy
    - b. cellular constituents within normal limits
    - c. inflammatory cells
    - d. microbiologic entities and associated cytomorphology
    - e. manifestations of cellular degeneration
    - f. benign cellular changes
    - g. cellular manifestations of benign neoplasms
    - h. cellular manifestations of malignant neoplasms
    - i. cellular effects of radiation and chemotherapy
    - j. altered cellular morphology due to collection methods
  4. When given a cellular preparation, the cytotechnologist will be able to detect, select, and appropriately mark the cells most representative of the nature of any pathological process.
  5. The cytotechnologist will be able to evaluate cellular preparations with a high level of accuracy as defined by the program. Although paramount, accuracy should be combined with the realization that timely reporting of results also contributes to patient care. At minimum, the cytotechnologist will be able to evaluate 5 slides per hour.
  6. On detection of cellular manifestations of disease, the cytotechnologist will be able to develop a differential diagnosis based on synthesis of appropriate data such as:
    - a. current cell block specimens
    - b. pertinent cognitive knowledge and clinical data
    - c. knowledge of various modes of treatment and their effect on the cytologic interpretation
    - d. review of previous patient material
  7. The cytotechnologist will be able to prepare a report using a contemporary and uniform system of diagnostic terminology for gynecologic specimens, such as The Bethesda system or its equivalent, and non-gynecologic specimens.

## II. BASIC LABORATORY TECHNIQUES

1. Upon presentation of a cytologic specimen to the laboratory, the cytotechnologist will be able to:
  - a. accept or reject the specimen
  - b. select and perform the most advantageous preparation technique
  - c. select and perform the most advantageous staining procedure
  - d. apply principles of quality control
  - e. solve problems in staining and preparation methods
2. The cytotechnologist will be able to utilize the microscope to properly visualize the specimen with knowledge of
  - a. principles of Kohler illumination
  - b. proper use, care and trouble-shooting of the microscope

- c. appropriate and effective microscopic slide evaluation methods
3. The cytotechnologist will be able to utilize basic laboratory skills and techniques pertinent to the Cytopathology laboratory.

### **III. LABORATORY OPERATIONS**

1. The cytotechnologist will be able to explain quality control and quality assurance measures as required by current regulations (CLIA, CAP, JCAHO, HIPAA and applicable state regulations).
2. The cytotechnologist will be able to comply with laboratory safety measures and regulations.

### **IV. ANCILLARY TESTING / NEW TECHNOLOGIES**

1. The cytotechnologist will be able to explain the applications of new technologies to the cytopathologic diagnostic process such as, but not limited to:
  - a. HPV DNA testing
  - b. Flow cytometry
  - c. Immunohistochemical techniques
  - d. FISH e. PCR
  - f. Immunophenotyping
  - g. Automated screening devices.

### **V. SCIENTIFIC METHOD OF INQUIRY**

1. The cytotechnologist will be able to demonstrate the ability to read and evaluate published professional literature for its pertinence and reliability and will be able to explain the basic principles of the scientific method through such methods as research projects, journal club and seminars.

### **VI. PROFESSIONAL DEVELOPMENT**

1. The cytotechnologist will be able to explain the importance of continuing education for maintenance of on-going competence, demonstrate knowledge of the consequences of specimen evaluation on patient management, and explain the importance of the cytotechnologist's role in the health care system.
2. The cytotechnologist will be able to demonstrate knowledge of the ethical role and responsibilities of the cytotechnologist by practicing:
  - a. honesty and integrity in professional duties
  - b. the principles of good personal relationships with peers, staff, faculty and the public

Taken from Curriculum in Cytotechnology, Entry-Level Competencies, Cytotechnology Programs Review Committee, American Society of Cytopathology, 2005.